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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,761

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Petri Jokela

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10/09/2009

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EXAMINER

VAUGHAN, MICHAEL R

ART UNIT

PAPER NUMBER

2431

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,761	<b>Applicant(s)</b> JOKELA ET AL.	
	<b>Examiner</b> MICHAEL R. VAUGHAN	<b>Art Unit</b> 2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **9/02/09** has been entered.

Claims 1 and 31 have been amended. Claims 1-23 and 31 are pending.

### ***Response to Amendment***

### ***Claim Rejections - 35 USC § 112***

Claims amendments have over the previous 112 rejections.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 31 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 15, 19, 20, 22, 23, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over NPL Publication "Host Identity Protocol Rendezvous Mechanism" authored by Eggert and published on 2-5-04, hereinafter Eggert, in view of USP Application Publication 2005/0160183 to Valli et al., hereinafter Valli.

As per claim 1, Eggert teaches a method performed at a gateway node forming a gateway between a first environment and a second environment, of using the Host Identity Protocol (HIP) to at least partially secure communications between a first host operating in the first network environment and a second, HIP-enabled, host operating in the second network environment, the method comprising:

associating an identifier at the gateway node (pg. 15, RB delegates a unique, globally-routable IP address),

storing the identifier at the gateway node (pg. 15);

sending the identifier to the first host (Fig 6, #6);

receiving a session initiation messages from the first host, where a source address of the session initiation message comprises the identifier and where the

Art Unit: 2431

session initiation message indicates that a destination of the session initiation message is the second host (pg. 15, second paragraph); and

using the stored identifier at the gateway node to negotiate a secure HIP connection to the second host (pg. 15, second paragraph). What appears different between the claim and Eggert's teaching is that the Rendezvous Broker is generating an identifier for the Responder as shown in Figure 6. For exemplification, Figure 6 will be used as a mapping. If the [I]nitiator, Non-HIP is the claim's first host and the [R]esponder, HIP is the second device, the gateway device would be the RVB. A tunnel is created to allow a non-HIP device to communicate with the HIP device. With this mapping, Eggert is silent in disclosing the identifier is associated with the first device. In this setup, the older legacy device (non-HIP) wants to communicate with a newer protocol device (HIP). This same idea is taught by Valli, in that an IPv4 device wants to communicate with an IPv6. The only difference is that Valli creates a unique identifier of the older IPv4 device so that it can implement the newer IPv6 protocol (0037-0038). Valli teaches the tunnel broker [gateway] generates an identifier for the IPv4 device and sends this unique identifier to the IPv4 device [initiator]. This is the identifier the initiator will use to communicate with the IPv6 device. In view of this teaching it is obvious that if the RVB brokers a HIP identifier for the Non-HIP device, it would remove the requirement of having to establish a tunnel. Valli teaches the identifier can be any unique value, so therefore the RVB could create a host identity for the initiator [HI (I)] to take advantage of the flexibility of the HIP without having to setup a tunnel between the RVB and responder. The claim would have been obvious because substituting known

Art Unit: 2431

elements which produce predictable result is within the ordinary capabilities of one of ordinary skill in the art.

As per claim 2, Eggert teaches the identifier is generated at the gateway node (pg. 15).

As per claim 3, Eggert teaches the identifier is generated in response to the sending of a context activation request from the first host to the gateway node (Figure 6, #2).

As per claim 4, Eggert teaches the context activation request is a Packet Data Protocol (PDP) context activation request to activate a PDP context, and the identifier is used as the PDP address in the PDP context (pg. 15).

As per claim 5, Eggert teaches the first host is not HIP enabled and the secure HIP connection is negotiated between the first and second hosts (section 4.1).

As per claim 6, Eggert teaches the first host is HIP enabled and the secure HIP connection is negotiated between the first and second hosts (section 3.2).

As per claim 7, Eggert teaches the identifier is of the same length as an address in the addressing scheme used by the first host for communication with the gateway node (pg. 15; T-R).

As per claim 8, Eggert teaches the IP addressing scheme is used and the identifier is used as the source IP address in the session initiation message (pg. 15).

As per claim 9, Eggert teaches the identifier is a look-up identifier associated with a HIP identity tag generated for and associated with the first host, allowing the HIP identity tag for the first host to be retrieved at the gateway node using the look-up

Art Unit: 2431

identifier [the HR value and the IP(T-R) are associated with second host; Figure 6].

Examiner supplies the same rationale as recited in the rejection of claim 1 to broker a HI value for the first device.

As per claim 10, Eggert teaches the identifier is a HIP identity tag (pg. 15).

As per claim 11, Eggert teaches the HIP identity tag is included in a HIP header during negotiation of the HIP connection between the gateway and the second host (pg. 8).

As per claim 12, Eggert teaches the HIP identity tag is a Host Identity Tag (HIT) or a Local Scope Identifier (LSI) (pg. 15).

As per claim 15, Eggert teaches the identifier is in the form of an IP address (pg. 15).

As per claim 19, Eggert teaches the second network environment is an Internet network environment (IP; section 3.2).

As per claim 20, Eggert teaches the gateway node provides the functionality of a HIP proxy [RVB of Figure 6].

As per claim 22, Eggert teaches the identifier with an address associated with the gateway node as the source address in a subsequent message sent to the second host (pg. 15).

As per claims 23 and 31, Eggert teaches a communications system and apparatus comprising:

a first host operating in a first network environment (Fig.6),

a second, Host Identity Protocol (HIP) enabled, host operating in a second network environment (Fig. 6),

a gateway node [RVB] forming a gateway between the two environments (Figure 6),

means for associating an identifier at the gateway node (pg. 15);

means for storing the identifier at the gateway node (pg. 15);

means for sending the identifier to the first host (Figure 6, #6);

means for receiving a session initiation messages from the first host, where a source address of the session initiation message comprises the identifier and where the session initiation message indicates that a destination of the session initiation message is the second host (pg. 15); and

means for using the stored identifier at the gateway node to negotiate a secure HIP connection to the second host (pg. 15). What appears different between the claim and Eggert's teaching is that the Rendezvous Broker is generating an identifier for the Responder as shown in Figure 6. For exemplification, Figure 6 will be used as a mapping. If the [I]nitiator, Non-HIP is the claim's first host and the [R]esponder, HIP is the second device, the gateway device would be the RVB. A tunnel is created to allow a non-HIP device to communicate with the HIP device. With this mapping, Eggert is silent in disclosing the identifier is associated with the first device. In this setup, the older legacy device (non-HIP) wants to communicate with a newer protocol device (HIP). This same idea is taught by Valli, in that an IPv4 device wants to communicate with an IPv6. The only difference is that Valli creates a unique identifier of the older



Art Unit: 2431

IPv4 device so that it can implement the newer IPv6 protocol (0037-0038). Valli teaches the tunnel broker [gateway] generates an identifier for the IPv4 device and sends this unique identifier to the IPv4 device [initiator]. This is the identifier the initiator will use to communicate with the IPv6 device. In view of this teaching it is obvious that if the RVB brokers a HIP identifier for the Non-HIP device, it would remove the requirement of having to establish a tunnel. Valli teaches the identifier can be any unique value, so therefore the RVB could create a HI (I) to take advantage of the flexibility of the HIP without having to setup a tunnel between the RVB and responder. The claim would have been obvious because substituting known elements which produce predictable result is within the ordinary capabilities of one of ordinary skill in the art.

Claims 13, 14, 16, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggert and Valli as applied to claim 1 above, and further in view of NPL "Integrating Security, Mobility, and Multi-homing in a HIP Way" by Wall et al., published 02/2003, hereinafter Wall.

As per claim 13, Eggert and Valli omit the details of generating the HIP identity tag. Wall teaches that they are formed from public keys (section 7). The claim would have been obvious because one of ordinary skill in the art would have known the HIT of Eggert where public keys as taught by Wall. Therefore it would have been obvious to

Art Unit: 2431

one of ordinary skill in the art at the time of the invention to generate the HIT from public keys because they are part of the HIP.

As per claim 14, Examiner supplies the same rationale to combine Wall with Eggert and Valli. Eggert teaches the gateway node stores the HIT (section 3.2).

As per claim 16, Eggert and Valli are silent in expressly disclosing that the first network environment is a mobile network environment. Wall teaches the use of the HIP in a mobile environment (see abstract). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the system of Eggert and Valli within a mobile network because Wall teaches the HIP is used in mobile environment and Eggert teaching a use for HIP.

As per claims 17 and 18, Eggert, Valli, and Wall do not explicitly name what kind of wireless network is present. However, Official Notice is taken that UMTS 3G networks are a well known and established type of wireless network. The claim would have been obvious because one of ordinary skill in the art could have implemented HIP in any of the well known types of wireless networks.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eggert and Valli as applied to claim 1 above, and further in view of USP Application Publication 2002/0057662 to Lim.

As per claim 21, Eggert and Valli are silent in disclosing the gateway node is a GGSN. Lim teaches using a GGSN to connect a mobile network to an IP network (0004). The notion that Eggert's teaching is directed to mobility and Lim teaching a type

Art Unit: 2431

of mobile network is easily recognizable. Claim 21 would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical graphs. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the GGSN of Lim as the RVB of Eggert.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL R. VAUGHAN whose telephone number is (571)270-7316. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm, EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. V./

Examiner, Art Unit 2431

/William R. Korzuch/

Supervisory Patent Examiner, Art Unit 2431